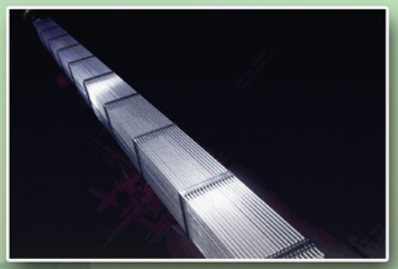
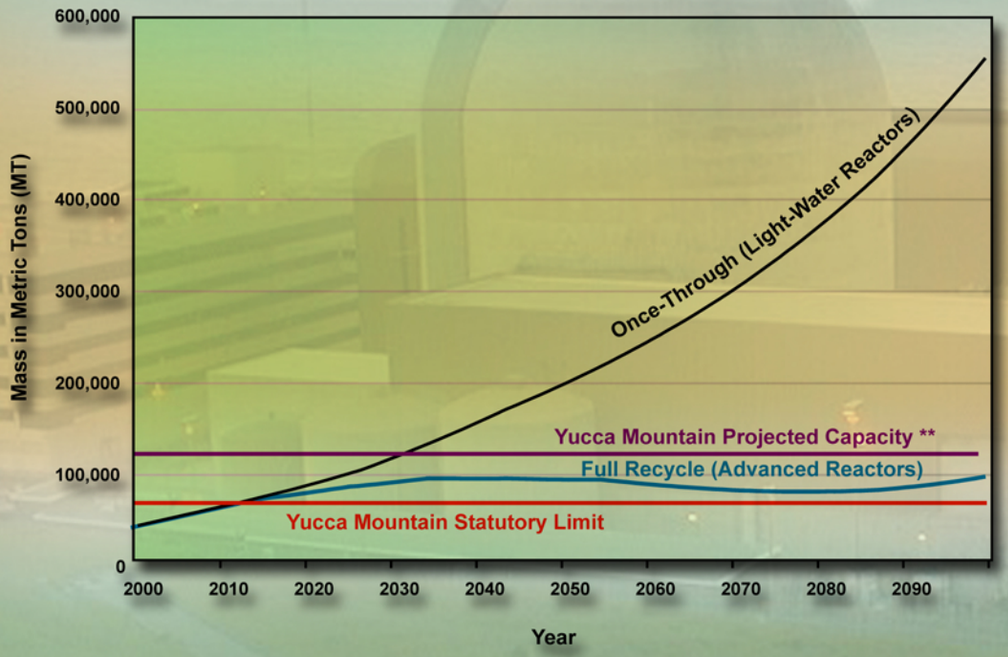
Spent Nuclear Fuel Generation and Accumulation

Spent nuclear fuel is generated when nuclear fuel rods are removed from nuclear reactors. In the U.S., this amounts to 2,000 metric tons per year.



Projected Spent Nuclear Fuel Accumulation from Nuclear-Generated Electricity*



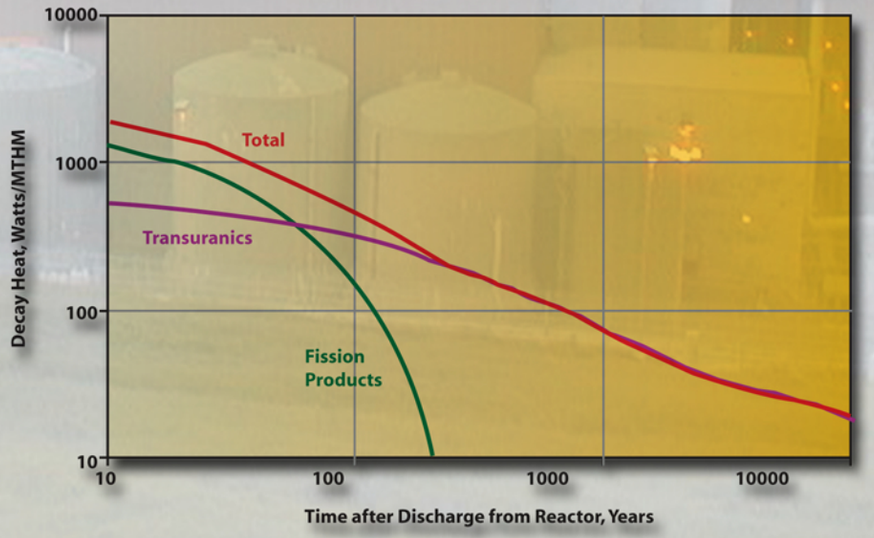
*Assumes continued electricity growth, with nuclear energy maintaining 20 percent market share.

**U.S. Department of Energy, 2002, *Final Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada*, DOE/EIS-0250, Washington, D.C., February.

Challenges

2% Transuranics (Pu, Np, Am, Cm)	→	Long-term dose, heat generation, proliferation
5% Fission Products	→	Heat generation, long-term dose
93% Uranium	→	Waste volume

Heat generation is a limiting factor for Yucca Mountain; therefore, the reduction of transuranics is key.



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